

IN THE CLAIM

A1 1 1. (Currently Amended) A method for retiring instructions processed through various
2 processing stages, comprising the steps of:
3 processing an instruction capable of early retirement until the instruction
4 meets the criteria for early retirement;
5 indicating that the instruction has met the early-retirement criteria;
6 processing the instruction to a desirable stage at which, based on the
7 indication the instruction has met the early-retirement criteria, the
8 instruction is terminated out of order of a program running the
9 instruction; and
10 updating a state of a system processing the instruction to reflect that the
11 instruction has been terminated;
12 wherein the early-retirement criteria is met when the instruction is
13 processed to a point that continued processing of the instruction
14 does not change the architectural state of the system processing the
15 instruction, and, at the time of termination, the instruction has
16 completed its function without completing its full pipeline.

1 2. (Original) The method of claim 1 wherein the desirable stage includes an instruction
2 queue.

1 3. (Original) The method of claim 1 wherein the step of indicating comprises the step of
2 generating a signal associated with the instruction.

1 4. (Original) The method of claim 3 further comprises the steps of:
2 sending the signal to an early-retirement unit; and

3 the early-retirement unit arranging for the instruction to be terminated.

1 5. (Original) The method of claim 1 wherein the various processing stages include one or
2 more of the following stages: fetching, issuing, sorting, executing, queuing, and
3 retiring.

1 6. (Original) The method of claim 1 wherein the instruction capable of early retirement
2 includes an identification tag for identifying whether the instruction is capable of
3 early retirement.

1 7. (Original) The method of claim 1 wherein NO-OP instructions, pre-fetch instructions,
2 branch instructions, nullified instructions, and predicated-false instructions are
3 identified as instructions capable of early retirement.

1 8. (Canceled) The method of claim 1 wherein the criteria for early retirement are met
2 when continued processing the instruction does not change the architectural state
3 of the system processing the instruction.

1 9. (Currently Amended) The method of claim 1 wherein the criteria for early retirement
2 are met when continued processing of the instruction does not change the behavior
3 of the program running the instruction.

1 10. (Currently Amended) A computer-readable medium embodying instructions that
2 cause a computer to perform a method for retiring instructions processed through
3 various processing stages, the method comprising the steps of:

4 processing an instruction capable of early retirement until the instruction
5 meets the criteria for early retirement;
6 indicating that the instruction has met the early-retirement criteria;
7 processing the instruction to a desirable stage at which, based on the
8 indication that the instruction has met the early-retirement criteria,
9 the instruction is terminated out of order of a program running the
10 instruction; and
11 updating a state of a system processing the instruction to reflect that the
12 instruction has been terminated;
13 wherein the early-retirement criteria is met when the instruction is
14 processed to a point that continued execution of the instruction does
15 not change the architectural state of the system processing the
16 instruction, and, at the time of termination, the instruction has
17 completed its function without completing its full pipeline.

1 11. (Original) The computer-readable medium of claim 10 wherein the desirable stage
2 includes an instruction queue.

1 12. (Original) The computer-readable medium of claim 10 wherein the step of indicating
2 comprises the step of generating a signal associated with the instruction.

1 13. (Original) The computer-readable medium of claim 12 wherein the method further
2 comprises the steps of:
3 sending the signal to an early-retirement unit; and
4 the early-retirement unit arranging for the instruction to be terminated.

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1 14. (Original) The computer-readable medium of claim 10 wherein the various processing
2 stages include one or more of the following stages: fetching, issuing, sorting,
3 executing, queuing, and retiring.

1 15. (Original) The computer-readable medium of claim 10 wherein the instruction
2 capable of early retirement includes an identification tag for identifying whether
3 the instruction is capable of early retirement.

1 16. (Original) The computer-readable medium of claim 10 wherein NO-OP instructions,
2 pre-fetch instructions, branch instructions, nullified instructions, and predicated-
3 false instructions are identified as instructions capable of early retirement.

1 17. (Canceled) The computer-readable medium of claim 10 wherein the criteria for early
2 retirement are met when continued processing the instruction does not change the
3 architectural state of the system processing the instruction.

1 18. (Currently Amended) The computer-readable medium of claim 10 wherein the criteria
2 for early retirement are met when continued processing of the instruction does not
3 change the behavior of the program running the instruction.

1 19. (Currently Amended) A system for retiring instructions processed through various
2 processing stages, comprising:
3 first processing means for processing an instruction capable of early
4 retirement until the instruction meets the criteria for early
5 retirement;

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6 ~~indicating means for indicating that the instruction has met the early-~~
7 ~~retirement criteria;~~
8 second processing means for processing the instruction to a desirable stage
9 at which, based on an ~~the~~ indication that the instruction has met the
10 early-retirement criteria, the instruction is terminated out of order
11 of a program running the instruction; and
12 updating means for updating a state of the system to reflect that the
13 instruction has been terminated;
14 wherein the criteria for early retirement is met when the instruction is
15 processed to a point that continued processing of the instruction
16 does not change the architectural state of the system, and, at the
17 time of termination, the instruction has completed its function
18 without completing its full pipeline.

1 20. (Original) The system of claim 19 wherein the desirable stage includes an instruction
2 queue.